



RAILROAD COMMISSION OF TEXAS

OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 02-0272528

THE APPLICATION OF PREFERRED FLUIDS MANAGEMENT, LLC FOR COMMERCIAL DISPOSAL AUTHORITY PURSUANT TO STATEWIDE RULE 9 FOR THE BETA SWD LEASE, WELL NO. 1, AUSTIN PIERCE (AUSTIN CHALK) FIELD, DE WITT COUNTY, TEXAS

OIL AND GAS DOCKET NO. 02-0272530

THE APPLICATION OF PREFERRED FLUIDS MANAGEMENT, LLC FOR COMMERCIAL DISPOSAL AUTHORITY PURSUANT TO STATEWIDE RULE 9 FOR THE BETA SWD LEASE, WELL NO. 2, AUSTIN PIERCE (AUSTIN CHALK) FIELD, DE WITT COUNTY, TEXAS

HEARD BY: Richard D. Atkins, P.E. - Technical Examiner
James M. Doherty - Legal Examiner

APPEARANCES:

REPRESENTING:

APPLICANT:

Mickey R. Olmstead
Greg Cloud
Steven Mobley

Preferred Fluids Management, LLC

PROTESTANTS:

James M. Bostic
Thomas Richter
Dr. William A. Bergey
Dr. Sandra B. Bergey
Dr. Louis Boening

Drs. William A. and Sandra B. Bergey

PROCEDURAL HISTORY

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|-------------------------------|--------------------|
| Application Filed: | June 24, 2011 |
| Protest Received: | June 21, 2011 |
| Request for Hearing: | September 14, 2011 |
| Notice of Hearing: | September 27, 2011 |
| Hearing Held: | December 7, 2011 |
| Transcript Received: | December 19, 2011 |
| Proposal for Decision Issued: | January 24, 2012 |

EXAMINERS' REPORT AND PROPOSAL FOR DECISION**STATEMENT OF THE CASE**

Preferred Fluids Management, LLC ("Preferred") requests commercial disposal authority pursuant to Statewide Rule 9 for the Beta SWD Lease, Well Nos. 1 and 2, Austin Pierce (Austin Chalk) Field, De Witt County, Texas.

Notices of the subject applications were published in *The Cuero Record*, a newspaper of general circulation in De Witt County, on April 12, 2011. Notices of the applications were sent to the De Witt County Clerk, offset operators within ½ mile and to the surface owners of each tract which adjoins the disposal tract on April 25, 2011.

This application is protested by surface owners adjacent to the tract on which the proposed disposal wells are located.

DISCUSSION OF THE EVIDENCE**Applicant's Evidence**

The proposed wells are located on an 18 acre tract adjacent to and south of State Highway 111. The tract is in a rural area and is situated approximately 8 miles west of the town of Yoakum, Texas. Preferred plans to drill new injection wells down to 6,200 feet. The wells will have 9 5/8" surface casing set at 800 feet that will be cemented to the surface with 315 sacks of cement. Preferred proposes to run 7" production casing to 6,200 feet cemented to the surface with 775 sacks of cement. The wells will be equipped with 4 1/2" tubing and packer set at 5,100 feet (See attached Preferred Exhibit Nos. 10 and 15 - Wellbore Diagrams).

The proposed disposal interval is located in the Carrizo-Wilcox formation between 5,200 feet and 6,000 feet. A cross-section across an area of approximately ten miles demonstrates that the proposed Carrizo-Wilcox disposal interval is continuous and has approximately 600 feet of sand with approximately 25% porosity. The interval is suitable for disposal and is used for disposal in other area wells. Additionally, there is

approximately 2,000 feet of shale above the proposed disposal interval which will serve to prevent the migration of injected fluids out of the disposal interval. Preferred requested authority to dispose of a maximum of 15,000 barrels of salt water and RCRA exempt waste per day per well with a maximum surface injection pressure of 2,600 psig.

The Texas Commission on Environmental Quality ("TCEQ") recommends that usable-quality ground water be protected to a depth of 700 feet below the land surface. The base of the underground source of drinking water ("USDW") is 1,150 feet. Preferred submitted a TCEQ letter dated June 18, 2011, which stated that injection into the proposed injection interval will not harm usable quality water.

There is one plugged well located within the 1/4 mile radius of review and there are no wells located within the 1/2 mile radius of review for the proposed disposal wells. According to Commission records, the one plugged well was drilled as a dry hole in 1952 and has been properly plugged. There are five permitted horizontal Eagle Ford formation wells within one mile of the proposed disposal wells.

The proposed Preferred facility is located in the northern portion of De Witt County. There are only two active commercial disposal wells in De Witt County and both wells are located 30 miles south of the proposed facility. In the two adjoining counties of Gonzales and Lavaca Counties, there are two and six active disposal wells, respectively. All of the wells are located at least 20 miles from the proposed facility. Preferred stated that there are significant wait times at the existing facilities. Additionally, water hauled to the nearest commercial disposal well must travel through the town of Yoakum, Texas. Use of the proposed wells will eliminate substantial truck traffic through Yoakum, Texas, and less travel time and fewer miles results in reduced costs to operators.

The Eagle Ford development core area encompasses all of De Witt County and the two adjoining Counties of Gonzales and Lavaca. Preferred submitted a map depicting over 300 permitted Eagle Ford Formation horizontal wells and completion papers on three nearby EOG Resources' Eagle Ford formation wells. The wells were fraced with 200,000 BW and averaged over 750 BWPD during initial flowback. Preferred calculated approximately 36 million barrels of frac water will be produced from the permitted wells.

Preferred also submitted the December 2011 oil proration schedule for the Eagleville (Eagle Ford) Field. There are 85 producing wells in the field with a daily water production of 27,200 barrels, which calculates to a per well average of 320 BWPD. Preferred opined that the Eagle Ford trend wells will produce significant volumes of frac and produced water. Preferred believes that additional disposal facilities are necessary to accommodate the Eagle Ford development that is expected in this part of the county.

The Facility

The area surrounding the proposed injection facility is rural ranching and farming land. Access to the disposal facility will be off of State Highway 111 which is a paved two

lane public highway. The surface facility will comply with all permit conditions requested by the Commission staff. At an average injection rate of 5,000 BWPD per well, there will be approximately 80 trucks per day accessing the facility. The facility will have a circular driveway and will be of sufficient size to allow trucks access without having to wait on the highway.

Preferred currently has two permitted commercial disposal wells in De Witt County and submits that it has the expertise to build and manage the proposed facility. Preferred has a current approved Form P-5 (Organization Report), a posted \$25,000 financial assurance bond and no pending Commission enforcement actions.

Protestants' Evidence

The protestants are surface owners adjacent to the proposed disposal site and acknowledged that they have recently leased their properties for oil and gas drilling. They are primarily concerned that the facility will pose a threat to their usable water quality and that the presence of the facility will decrease their property values. They are also concerned that a spill could contaminate the surface water, as drainage from the facility would flow into McCoy Creek and then into the Guadalupe River, which is the water supply for the city of Victoria, Texas. They are also worried about traffic safety, as a result of the increased number of trucks on the road going to the facility. The protestants stated that there was a hill west of the proposed disposal facility that allowed only approximately 400 feet of sight distance for vehicles traveling east on State Highway 111.

Protestant Dr. Boening was born in a farm house within 1/4 mile of the proposed disposal site in 1933. He is concerned that there are additional unplugged dry holes that are not shown on the RRC maps. He personally witnessed a wooden derrick drilling a dry hole west of the proposed facility on his walk to the Hochheim Prairie School in the late 1930s. Dr. Boening is also concerned about a potential threat to the surface water. The southern portion of the 18 acre proposed disposal tract is crossed by McCoy's Creek. He has personally witnessed the flooding of McCoy's Creek and any runoff from the proposed disposal tract will flow across his property. He has shallow water wells on his property that are used for drinking water and his cattle depend on drinking the surface water.

The protestants are concerned that the USDW may not be adequately protected in the nearby plugged well. Protestants' concern arises from a sentence included in a letter from the TCEQ which was issued on June 18, 2011, regarding the subject disposal wells. The letter is a required element of an application filed pursuant to Statewide Rule 9 and includes standard language regarding TCEQ's review of the application and a determination that use of the disposal well will not endanger freshwater strata in the area. Additionally, the letter includes language which specifies the base of the USDW. In this case, the base of USDW is indicated to be 1,150 feet, while the base of usable quality water is specified to be 700 feet. Protestants believe that the letter is indicative that the proposed disposal may harm the USDW because casing in the plugged well is only set to 741 feet.

The protestants' expert engineering witness did not believe that there was an industry need for additional disposal capacity in this area at this time. The expert submitted two "Pie Charts" showing the permitted injection capacity was 3.9 MMBWPM and the permitted and applied for injection capacity was 5.9 MMBWPM. The total H-10 disposal volume was only 400 MBWPM. The expert opined that the current active disposal capacity was more than sufficient to meet the current demand.

The protestants' expert engineering witness also performed a water encroachment calculation. The Beta SWD Lease, Well Nos. 1 and 2, are 229 feet and 374 feet, respectively, from the proposed disposal tract leaseline. The expert used 22 % porosity, 310 feet of net pay and an injection rate of 5,000 BWPD per well. The time for the water front to reach the leaseline for the Beta SWD Lease, Well Nos. 1 and 2, was 399 and 1,068 days, respectively. At an injection rate of 15,000 BWPD per well, the time for the water front to reach the leaseline was reduced by approximately one third. The protestants alleged that this constituted sub-surface trespass.

EXAMINERS' OPINION

The examiners recommend that the applications for commercial disposal authority be approved. Preferred has established:

1. The water resources (surface and sub-surface) are adequately protected from pollution;
2. The proposed injection wells will not endanger or injure any oil, gas, or mineral formations;
3. The proposed injection is in the public interest;
4. A satisfactory showing of financial responsibility, as required under Commission statutes and Commission regulatory requirements.

The wells will be completed in a manner which will protect usable-quality water resources and injected fluids will be confined to the injection interval. The useable-quality groundwater has a chloride content of less than 3,000 ppm, while the USDW has a chloride content between 3,000 and 10,000 ppm. The TCEQ recommends protection to a depth of 700 feet and the proposed disposal wells will have 800 feet of surface casing that is cemented to surface. The reference to the USDW at 1,150 feet in the June 18, 2011, letter is simply information provided by TCEQ to insure that there is no disposal of fluids into any USDW zone.¹

¹ This issue has been raised previously in **Oil and Gas Docket No. 04-0267765**; *The Application of J & R Contractors for Commercial Disposal Authority Pursuant to Statewide Rule 9 for the Zapata SWD Lease, Well No. 2, Falcon Lake, N. (Wilcox 6400) Field, Zapata County, Texas* - Final Order dated April 6, 2011 (See D. Chandler's Proposal for Decision dated February 16, 2011, Examiners' Opinion on page 4).

In addition, Statewide Rule 14 only requires that operators place a 100 foot thick cement plug across the base of the surface casing protecting useable-quality groundwater. The examiners do not believe that it is appropriate for the Commission to require an operator to re-enter and re-plug a properly plugged well where no danger to useable-quality groundwater has been demonstrated.

The proposed disposal wells will have cement behind the production casing to surface and there is a 2,000 foot thick shale interval overlying the Carrizo-Wilcox disposal interval. Injection will be through tubing set on a packer to confine injected fluids to the Carrizo-Wilcox interval between 5,200 feet and 6,000 feet. Finally, there is only one wellbore within the 1/4 mile area of review and that well has been properly plugged.

Approval of the application is in the public interest. The Eagle Ford development core area encompasses all of De Witt County and the two adjoining counties of Gonzales and Lavaca. Preferred has shown that the proposed disposal wells are necessary to provide needed capacity for disposal of frac and produced water from numerous wells to be drilled and produced within De Witt and surrounding counties. The proposed disposal wells are closer to a vast majority of recently permitted wells than any other commercial disposal well and the two existing commercial disposal wells in De Witt County have a limited capacity. Additionally, water hauled to the nearest commercial disposal well must travel through the town of Yoakum, Texas. Use of the proposed wells will eliminate substantial truck traffic through Yoakum, Texas, and less travel time and fewer miles results in reduced costs to operators, which will lower the economic limit of wells and thereby ultimately increase total production.

The surface facility will be newly constructed and is of sufficient size to accommodate trucks hauling water to the facility without creating a traffic hazard on the highway that provides access to the facility. Compliance with permit conditions will minimize the risk of spills at the facility and will prevent the migration of any spills that occur, thereby protecting both ground and surface water.

FINDINGS OF FACT

1. Notice of these applications and hearing was provided to all persons entitled to notice. Notices of the subject applications were published in *The Cuero Record*, a newspaper of general circulation in De Witt County, on April 12, 2011.
2. Notices of the applications were sent to the De Witt County Clerk, offset operators within 1/2 mile and to the surface owners of each tract which adjoins the disposal tract on April 25, 2011.
3. The proposed injection into the Beta SWD Lease, Well Nos. 1 and 2, will not endanger useable quality water.

- a. The TCEQ recommends that usable-quality ground water be protected to a depth of 700 feet below the land surface.
 - b. The wells will have 9 5/8" surface casing set at 800 feet that will be cemented to the surface with 315 sacks of cement.
 - c. There is approximately 2,000 feet of shale above the proposed disposal interval which will serve to prevent the migration of injected fluids out of the disposal interval.
4. The proposed injection into the Beta SWD Lease, Well Nos. 1 and 2, will not endanger production from other oil, gas or mineral bearing formations.
 - a. Preferred plans to drill new injection wells down to 6,200 feet.
 - b. Preferred proposes to run 7" production casing to 6,200 feet cemented to the surface with 775 sacks of cement.
 - c. The wells will be equipped with 4 1/2" tubing and packer set at 5,100 feet.
 - d. There is only one well located within the 1/4 mile radius of review and that well has been properly plugged. There are no other wells located within the 1/2 mile radius of review for the proposed disposal wells.
5. Use of the Beta SWD Lease, Well Nos. 1 and 2, as commercial disposal wells is in the public interest because it will reduce hauling distances and will provide needed commercial disposal capacity for wells to be drilled, completed and produced in the area of the proposed facility.
 - a. There are only two active commercial disposal wells in De Witt County and both wells are located 30 miles south of the proposed facility.
 - b. There are significant wait times at the existing facilities.
 - c. Water hauled to the nearest commercial disposal well must travel through the town of Yoakum, Texas. Use of the proposed wells will eliminate substantial truck traffic through Yoakum, Texas, and less travel time and fewer miles results in reduced costs to operators.
 - d. The Eagle Ford formation development core area encompasses all of De Witt County and the two adjoining Counties of Gonzales and Lavaca. There are over 300 permitted Eagle Ford formation horizontal wells located in the three counties.

- e. Preferred estimates that 36 million barrels of frac water will be produced from the permitted wells. The Eagleville (Eagle Ford) Field oil proration schedule contains 85 producing wells with a daily water production of 27,200 barrels, which calculates to a per well average of 320 BWPD.
6. Preferred has a current approved Form P-5 (Organization Report) and has posted a \$25,000 financial assurance bond.


CONCLUSIONS OF LAW

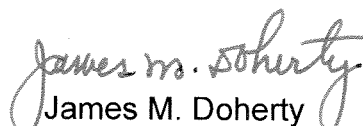
1. Proper notice was issued in accordance with the applicable statutory and regulatory requirements.
2. All things necessary to give the Railroad Commission jurisdiction to consider this matter have occurred.
3. Approval of the applications will not harm useable quality water resources, will not endanger oil, gas, or geothermal resources, will promote further development in this area of De Witt County and is in the public interest pursuant to Sec. 27.051 of the Texas Water Code.
4. Preferred Fluids Management, LLC has met its burden of proof and its applications satisfy the requirements of Chapter 27 of the Texas Water Code and the Railroad Commission's Statewide Rule 9.

EXAMINERS' RECOMMENDATION

Based on the above findings of fact and conclusions of law, the examiners recommend that the application of Preferred Fluids Management, LLC for commercial disposal authority for the Beta SWD Lease, Well Nos. 1 and 2, be approved, as set out in the attached Final Orders.

Respectfully submitted,


Richard D. Atkins, P.E.
Technical Examiner


James M. Doherty
Legal Examiner